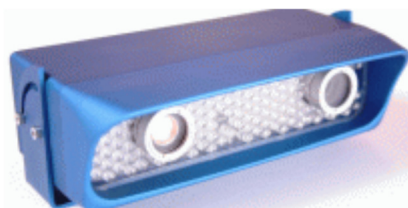# ANPR SYSTEMS:

Monitor - Control - Enforce

APS Aegis Ltd specialises in the design and manufacture of Automatic Number Plate Recognition (ANPR) systems. The range of products and services provides world leading performance to meet a wide range of Control and Monitoring requirements, such as, Police Enforcement, Access Control, Toll Collection and Monitoring, Road User Charging, Congestion Charging, Car Park Management, Traffic Monitoring and Journey Time Analysis Systems.

APS Aegis Ltd can provide a depth of knowledge and experience giving us the ability to work with our Clients to provide a solution from conception to completion. The Team's objective is to deliver 'state of the art' ANPR systems which provide operating stability and accuracy, whilst being user friendly and cost effective, including Arabic, Farsi, and non-reflective inverse polarity plates.

Access Control & Monitoring	High Performance Camera	ANPR Software

Traffic Management	Law Enforcement	Access Control & Security

Access Control & Monitoring

The APS Aegis Access Control application provides all the functionality to monitor or control the access of vehicles to a site. The software can be easily configured to cater for numerous sub categories. Authorised vehicles will be allowed to enter and unauthorised vehicles denied. The system will count the number of vehicles entering and exiting the car park. An easy to use Graphical User Interface (GUI) is provided to give operators instant feedback as events occur.

Costs can be cut by reducing normal security requirements such as staff, swipe cards and proximity devices. Such devices can be change hands and be lost easily. The system will allow historical data to be stored. Statistical information can be drawn from this data which can be used to plan for peak or busy periods.

In order to further increase ANPR accuracy, we have developed an 'aided recognition' technique which can be used in conjunction with a vehicle 'white' list. Miss-reads can and do happen with ANPR. The 'aided recognition' algorithms take this into account and can be set to correct vehicle number plates that are miss-read by one or two characters and still allow entry to that specific vehicle.

Key features & benefits:

- Accurate Number Works ANPR engine

- New 'aided recognition' technique further increasing accuracy

- New 'aided recognition' technique further increasing accuracy

- Log vehicles with associated images

- Alert staff to vehicles of interest

- Provide car park access control

- User friendly interface

- Control unauthorised commuter parking

- Increased security and gate house efficiency

- Easy car park auditing and management

- No need for costly swipe cards and proximity devices

- Communicate with remote sites over LAN/WAN

- 365, 24/7 operation
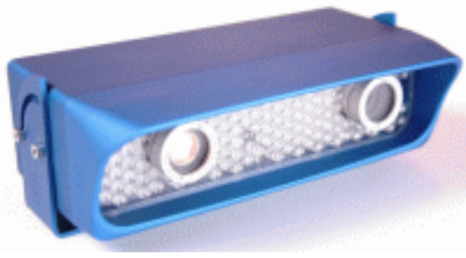
ANPR Sharp Camera System

There are many different challenges in producing the best imagery possible for ANPR use. Plate sizes, colours, contrast and structures vary worldwide and along with changing lighting conditions and headlight glare, selecting the wrong camera technology for your system can cause significant problems.

The paramount importance of the recognition quality makes it necessary to use the best software and camera. However the efforts of the best software will be hindered if the image quality of the camera is degraded. Degradation can happen due to sensor noise and lens distortion. The ANPR Sharp Camera is utilising a HD quality glass lens and selected grade Sony sensors to combat the degradation of images. The lens technology is not only distortion free but it provides an infinite depth of field eliminating blurring to protect image quality. The technology and results in producing high quality images of number plates at 6, 10, 15 and 20m distances. The number plate will always stay sharp throughout the image.

There are other important sensor properties aiding the recognition effort. Most number plates in the world are retro-reflective, resulting in brighter plates during night time. The ANPR camera has been deliberately designed to preserve the brightness of the plates whilst it is attenuating light reflecting from other objects. This combined with the most powerful illuminator in the market and the super bright lens, generates exceedingly sharp and noise free number plate images.

The ANPR camera system has been designed with image quality and ease of use in mind. Due to the technology there is no need for manage optical settings. Moreover, the ANPR camera runs on a single cat5 network cable for all video, power and communication. This one cable can be as long as 100m and the ANPR camera will compensate for the length of the cable to provide degradation free images thus reducing the complexity of planning and installation.

Key Features

- Retro - reflective operation with sunshine suppression
- Non-Retro reflective operation
- Multi operation modes
- Sequential shutter for extended dynamic range
- Low gain for reduced image noise
- Compact and light design
- Installation friendly design.

ANPR Software:

Key Features:

• Multi Camera Software

• Easy Deployment

• Non-Retro reflective and Inverse Polarity Plates

• Arabic and Farsi License Plates

• Square or Rectangular Plates

• Multi Language Interface

• Available with SDK

• GPS Interface

• Date and Time storage

• In Picture Trigger

As there are so many varying types of plates worldwide selecting the correct software to read plates with differing character sizes, plates sizes, fonts and colours is key to any system.

The digital reading software has been developed to deal with all of these parameters 'out of the box'. The software is capable of reading standard and inverse polarity plates and plates with different character sizes, stacked characters, both square and rectangular including a number of different fonts.

This has culminated in a world leading ANPR software engine that can also read Arabic and Farsi characters to a very high accuracy.

Each character read is assigned a confidence result of accuracy, culminating this and other data including segmentation and spacing enables the PC to display the most accurate result from each read.

Specifications:

Operating System: Supports all operating systems including Windows XP, Linux

Trigger: In Picture trigger for automatic use with option to insert external trigger if required.

Accuracy: Typical operational 97% .

Programming Language: C++

Integration: SDK available

Licence Plates: Developed to support all licence plate structures

Inputs: Video, JPEG file inputs, IP Cameras

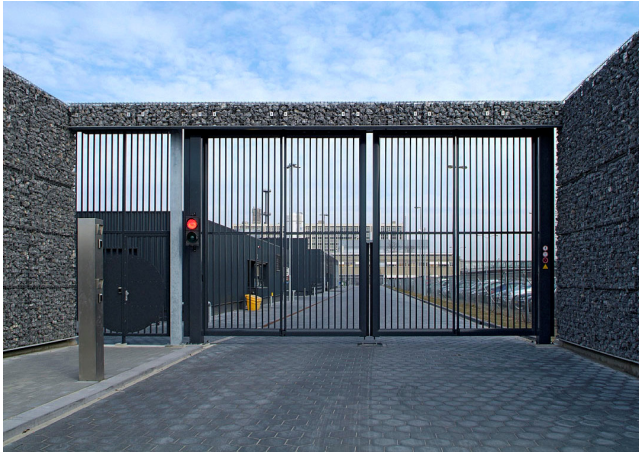Outputs: License plate data, Time, Date, GPS, Camera Name, Lane Name, Region Data

Processing Time: Realtime

Site Security & Access Control

ANPR is increasingly being deployed by security managers to control risk and heighten security at commercial and public sector sites.

When it comes to the application of ANPR, there is an ever-growing range of scenarios where this technology is having a positive impact:

The ANPR application provides all the functionality to monitor and control the access of vehicles to a site.

The software can be easily configured to cater for numerous sub categories. Authorised vehicles will be allowed to enter and unauthorised vehicles denied. The system will count the number of vehicles entering and exiting the car park.

An easy to use Graphical User Interface (GUI) provides operators instant feedback as events occur.

Costs can be cut by reducing normal security requirements with the implementation of an automated system existing swipe cards and proximity devices can also be integrated into the system for enhanced security profiling.

The system will allow historical data to be stored. Statistical information can be drawn from this data which can be used to plan for peak, busy periods or for times where denial of access is required.

- Airports
- Military Bases
- Ports and Harbours
- Secure Installations
- Critical Infrastructure
- Data Storage centres
- Manufacturing sites
- Industrial Estates
- Hotels
- Hospitals

Traffic Management

Throughout the world traffic system managers have started to integrate intelligent transport systems (ITS) into their transportation system infrastructure to help monitor and manage traffic flow and reduce congestion.

By using ANPR, it is possible to monitor the travel of individual vehicles, automatically providing information about the speed and flow of various routes. These details can highlight problem areas as and when they occur and helps transportation professionals to make informed incident management decisions.

Systems must be able to support numerous lanes of vehicles. The **ANPR Sharp Camera System** can read two lanes of traffic from a single, incredibly small unit thus reducing installation costs. The system runs on a Cat5 network cable to a roadside cabinet up to 100m away. The power to the camera is supplied along this cable from the roadside cabinet while the video is supplied along the same cable from the camera to a rugged roadside processing unit which is also housed inside the cabinet.

The ANPR processing takes place within this secure unit on the roadside. The data is then transmitted to a the Traffic Management Centre. Data can be transferred by numerous methods such as fibre, 3G, ADSL or wireless. This greatly reduces installation costs and reduces bandwidth requirements as only the plate reads and any required associated images are sent.

ANPR can provide transportation professionals with the tools to collect, analyse, and archive data that helps assess the performance of these systems.

ANPR can help monitor the movement and flow of vehicles around a road network. This would typically involve looking at historical data, estimates, observations and statistics.